

IN THE CLAIMS

Please cancel claims 1-10, 20-24.

Please add new claims 25-29.

1. (canceled)

2. (canceled)

3. (canceled)

4. (canceled)

5. (canceled)

6. (canceled)

7. (canceled)

8. (canceled)

9. (canceled)

10. (canceled)

11. (original) An apparatus for the deposition of thin film material upon a substrate comprising:

a confinement cup;

a vacuum source for evacuating the confinement cup to sub-atmospheric pressure;

a dense hot filament capable of being heated to 1500 C or higher;

at least one gas inlet adjacent the dense filament for introducing at least one gas into the evacuated confinement cup through the inlet; and

at least one gas inlet spaced apart from the dense filament for introducing at least one gas into the evacuated confinement cup through the inlet.

12. (original) The apparatus of claim 11, including a means for heating the substrate to a temperature between room temperature and 500 C or higher to enhance the surface mobility of atoms during film growth.

13. (original) The apparatus of claim 11, wherein the confinement cup is capable of being evacuated to a pressure of about 10^{-5} Torr or less.

14. (original) The apparatus of claim 11, wherein the dense hot filament comprises a densely pack filament coil or other dense filament structure.

15. (original) The apparatus of claim 11, wherein the at least one gas introduced into the evacuated confinement cup includes at least one of the

following: H_2 , silicon hydride (SiH_4 , Si_2H_6 , Si_3H_8 and $Si_xH_{(2x+2)}$), silicon fluoride, germanium hydride, germanium fluoride, carbon hydride, and carbon fluoride.

16. (original) The apparatus of claim 11, further including at least one electrode in the confinement cup to strike and maintain a plasma for the film deposition.

17. (original) The apparatus of claim 16, wherein the electrode delivers power at the frequency of 0 (DC) to 150 MHz (VHF) including 13.56 MHz (RF).

18. (original) The apparatus of claim 16, wherein the plasma is stricken during the interface treatment.

19. (original) The apparatus of claim 16, wherein the plasma is stricken for simultaneous plasma and hot-filament deposition.

20. (canceled)

21. (canceled)

22. (canceled)

23. (canceled)

24. (canceled)

25. (new claim) A thin film material deposited on a substrate using the apparatus of claim 11.

26. (new claim) The material in claim 25 used as an active layer in a photovoltaic device.

27. (new claim) The material in claim 25 used as an active layer in a thin film transistor.

28. (new claim) The material in claim 25 used as an active layer in an ac color plasma display.

29. (new claim) The material in claim 25 used as a hard coating for tools.